Falcon sensor for Linux Deployment Guide

Version 2.14 - Last updated: 07/5/2018

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Introduction

This guide explains how to install, uninstall, and troubleshoot the Falcon sensor for Linux.

System Requirements

Operating Systems

We support recent, x86_64 versions of these Linux server OSes. For specific kernel versions, see Appendix A.

- Amazon Linux
- CentOS
- Red Hat Enterprise Linux (RHEL)
- SUSE Linux Enterprise Server (SLES)

  SLES 11: you must also install OpenSSL version 1.0.1e or greater
- Ubuntu (Long Term Support (LTS) version only)

We don't support Linux desktop OSes.

Networking Requirements

WHITELIST URLS

Depending on your network environment, you may need to whitelist SSL traffic to and from our cloud's network addresses.

- `ts01-b.cloudsink.net`
- `lfoup01-b.cloudsink.net`
- `lfodown01-b.cloudsink.net`

If your network requires whitelisting by IP address instead of FQDN, see Appendix B for a list of IP addresses we use.

> We use AWS for some communications between hosts and the CrowdStrike cloud.

AVOID INTERFERENCE WITH CERTIFICATE PINNING

The Falcon sensor uses certificate pinning to defend against man-in-the-middle attacks. Some network configurations, such as deep packet inspection, interfere with certificate validation.

Disable deep packet inspection (also called "HTTPS interception," "TLS interception," or "SSL inspection") or similar network configurations. Common sources of interference with certificate pinning include antivirus systems, firewalls, or proxies.

Install the Falcon Sensor for Linux

1. Download the Falcon sensor installer from Hosts > Sensor Downloads.
2. Copy your **Customer ID Checksum** (CID), displayed on **Sensor Downloads**.
3. Run the installer, substituting `<installer_package>` with your installer's file name.
   - **Ubuntu**:
     ```
     sudo dpkg -i <installer_package>
     ```
   - **RHEL, CentOS, Amazon Linux:**
     ```
     sudo yum install <installer_package>
     ```
   - **SLES:**
     ```
     sudo zypper install <installer_package>
     ```
4. Set your CID on the sensor, substituting `<CID>` with your CID.

   This step is not required for versions 4.0 and earlier.
   - **All OSes:**
     ```
     sudo /opt/CrowdStrike/falconctl -s --cid=<CID>
     ```
5. Start the sensor manually.

   This step is not required for versions 4.0 and earlier.
   - **Hosts with** `SysVinit` :
     ```
     service falcon-sensor start
     ```
   - **Hosts with** `Systemd` :
     ```
     systemctl start falcon-sensor
     ```
6. Confirm the sensor is running.
   - **All OSes:**
     ```
     ps -e | grep falcon-sensor
     ```

You'll see output similar to this:

```
[root@centos6-installtest ~]# sudo ps -e | grep falcon-sensor
   905 ?        00:00:02 falcon-sensor
```

Optional: Prepare a Host as a Master Image

If you're preparing a host as a "master" device for cloning or virtualization, you must remove your "master" host's agent ID (AID).

Run this command after installing:

```
sudo /opt/CrowdStrike/falconctl -d -f --aid
```

When your cloned devices or virtual machines first contact the CrowdStrike cloud, they'll be automatically assigned a unique AID. If multiple devices use the same AID, the Falcon console will process all their events as though they came from a single device.

Optional: Configure a Proxy

If your hosts use a proxy, configure the Falcon sensor to use it:

- Configure proxy:
  ```
  sudo /opt/CrowdStrike/falconctl -s --aph=<proxy host> --app=<proxy port>
  ```
- Confirm config:
  ```
  sudo /opt/CrowdStrike/falconctl -g --aph --app
  ```
- Enable proxy:
  ```
  sudo /opt/CrowdStrike/falconctl -s --apd=FALSE
  ```
- Disable proxy:
  ```
  sudo /opt/CrowdStrike/falconctl -s --apd=TRUE
  ```

Uninstall the Falcon Sensor for Linux

Run these commands to uninstall the Falcon sensor from your host:

- **Ubuntu:**

  ```
  sudo apt-get purge falcon-sensor
  ```

- **RHEL, CentOS, Amazon Linux:**

  ```
  sudo yum remove falcon-sensor
  ```

- **SLES:**

  ```
  sudo zypper remove falcon-sensor
  ```

Troubleshooting Sensor Installation

Installation Fails

ISSUE

Your sensor installation fails.

SOLUTION

Verify that the SHA256 checksum of the installer file you downloaded matches the SHA256 checksum shown in Hosts > Downloads.

Ubuntu Installation Fails: "Dependent Packages are not Installed"

ISSUE

Your Ubuntu installation fails with an error that "dependent packages are not installed."

SOLUTION

Use this command to install the dependent packages:

```
$ apt-get -f install
```

SLES Installation Fails: "Nothing Provides Openssl"

ISSUE

Your SLES installation fails with an error that `nothing provides openssl1 >= 1.0.1`. This is most commonly caused by a SLES version that doesn't include a modern OpenSSL implementation.

SOLUTION

1. Enable the SLES 11 security module: `$ sudo zypper mr --enable SLE11-Security-Module`
2. Run the sensor installer again.

Verify that Dependencies are Installed

ISSUE

Your installation fails with an error message about missing dependencies of `libssl`, `libc`, or `libcrypto`.

```
--> Missing Dependency: libssl.so.10()(64bit) is needed by package falcon-sensor-1.0.3-1.e16x86_64 (/falcon-sensor-1.0.3-1.e16.x86_64)
Error Missing Dependency: libc.so.6(GLIBC_2.7)(64bit) is needed by package falcon-sensor-1.0.3-1.e16x86_64 (/falcon-sensor-1.0.3-1.e16.x86_64)
Error Missing Dependency: libcrypto.so.10()(64bit) is needed by package falcon-sensor-1.0.3-1.e16x86_64 (/falcon-sensor-1.0.3-1.e16.x86_64)
```

SOLUTION

Install a supported version of OpenSSL.

Troubleshooting General Sensor Issues

Verify that the Sensor is Running

1. Check running processes to verify the Falcon sensor is running: `ps -e | grep -e falcon-sensor`
2. Check kernel modules to verify the Falcon sensor's kernel modules are running: `lsmod | grep falcon`

3. Check the Falcon sensor's configurable options: `sudo /opt/CrowdStrike/falconctl -g`
   Optional parameters:

   - `--aid` : the sensor's agent ID
   - `--cid` : your Customer ID
   - `--apd` : the sensor's proxy status (enabled or disabled)
   - `--aph` : the sensor's proxy host
   - `--app` : the sensor's proxy port

The sensor requires these runtime services:

- `network`
- `systemd`
  - `local-fs`
  - `sysinit`
  - `multi-user`
  - `shutdown`

Verify the Sensor Files on Disk

If the sensor is not running, verify that the sensor's application files exist on your host:

```
$ sudo ls -al /opt/CrowdStrike /opt/CrowdStrike/falcon-sensor
```

This should be a symlink to either:

- the original sensor installation at `/opt/CrowdStrike/falcon-sensor`
- a sensor update package with a release build number, such as `/opt/CrowdStrike/falcon-sensor3000`

Verify that the Sensor is Connected to the Cloud

There are two ways to verify that a sensor is connected to the CrowdStrike cloud:

- **Falcon console**: Search for the host in **Hosts > Host Management**. To view a complete list of newly installed sensors, use the Sensor Report.
- **From the host**: Check network statistics using the command line: `sudo netstat -tapn | grep falcon`

If the Falcon sensor is communicating with the cloud, you'll see output like this:

```
tcp       0     0   192.0.2.176:35382     ec2-54-148-96-12:443
ESTABLISHED 3228/falcon-sensor
```

Sensor Logging

CrowdStrike support may ask you to provide sensor logs when troubleshooting an issue. Sensor logs are disabled by default because they can consume significant disk space. We recommend enabling sensor logs only when requested by CrowdStrike support.

- **Enable sensor logging:**

  `/opt/CrowdStrike/falconctl -s --feature=enableLog,disableLogBuffer --update`

- **Disable sensor logging:**

  `/opt/CrowdStrike/falconctl -s --feature=none --update`

  Sensor logs are available for sensor version 3.0 and later. Find your sensor version with this command:

  `/opt/CrowdStrike/falconctl -g --version .`

Appendix A - Supported Kernels

Run the command `uname -r` from a host's command line to find its kernel version.

Unsupported kernels: For kernels not those listed here, the sensor will run in a reduced functionality mode (RFM) until we update the Falcon sensor to support that kernel.

Amazon Linux 2017.03

Kernel	Minimum sensor version
4.9.17-8.31.amzn1.x86_64	Falcon sensor v3.5
4.9.20-10.30.amzn1.x86_64	Falcon sensor v3.5
4.9.20-11.31.amzn1.x86_64	Falcon sensor v3.5
4.9.27-14.31.amzn1.x86_64	Falcon sensor v3.5
4.9.27-14.33.amzn1.x86_64	Falcon sensor v3.5
4.9.32-15.41.amzn1.x86_64	Falcon sensor v3.5
4.9.38-16.33.amzn1.x86_64	Falcon sensor v3.5
4.9.38-16.35.amzn1.x86_64	Falcon sensor v3.6
4.9.43-17.38.amzn1.x86_64	Falcon sensor v3.6
4.9.43-17.39.amzn1.x86_64	Falcon sensor v3.7
4.9.51-10.52.amzn1.x86_64	Falcon sensor v3.7
4.9.70-25.242.amzn1.x86_64	Falcon sensor v3.8
4.9.75-25.55.amzn1.x86_64	Falcon sensor v3.8

Amazon Linux 2017.09

Kernel	Minimum sensor version
4.9.58-18.51.amzn1.x86_64	Falcon sensor v3.10.4204
4.9.58-18.55.amzn1.x86_64	Falcon sensor v3.10.4204
4.9.62-21.56.amzn1.x86_64	Falcon sensor v3.10.4204
4.9.77-31.58.amzn1.x86_64	Falcon sensor v3.10.4205
4.9.81-35.56.amzn1.x86_64	Falcon sensor v4.1.4404
4.9.76-3.78.amzn1.x86_64	Falcon sensor v4.3.4603
4.9.85-37.55.amzn1.x86_64	Falcon sensor v4.3.4603
4.9.85-38.58.amzn1.x86_64	Falcon sensor v4.3.4603
4.9.93-41.60.amzn1.x86_64	Falcon sensor v4.5.5014

RHEL 6 / CentOS 6

Kernel	Minimum sensor version
2.6.32-431.el6.x86_64	Falcon sensor v3.10.4204

.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.1.2.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.11.2.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.17.1.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.20.3.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.20.5.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.23.3.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.29.2.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.3.1.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.37.1.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.40.1.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.40.2.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.46.2.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.5.1.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.50.1.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.53.2.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.56.1.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.59.1.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.61.2.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.64.1.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-431.66.1.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-504.el6.x86_64	
2.6.32-504.1.3.el6.x86_64	
2.6.32-504.3.3.el6.x86_64	
2.6.32-504.8.1.el6.x86_64	
2.6.32-504.12.2.el6.x86_64	
2.6.32-504.16.2.el6.x86_64	
2.6.32-504.23.4.el6.x86_64	
2.6.32-504.30.3.el6.x86_64	
2.6.32-504.33.2.el6.x86_64	
2.6.32-504.36.1.el6.x86_64	
2.6.32-504.38.1.el6.x86_64	
2.6.32-504.40.1.el6.x86_64	
2.6.32-504.43.1.el6.x86_64	
2.6.32-504.46.1.el6.x86_64	
2.6.32-504.49.1.el6.x86_64	
2.6.32-504.50.1.el6.x86_64	

Skip to main content l6.x86_64	
2.6.32-504.52.1.el6.x86_64	
2.6.32-504.54.1.el6.x86_64	
2.6.32-573.el6.x86_64	
2.6.32-573.1.1.el6.x86_64	
2.6.32-573.3.1.el6.x86_64	
2.6.32-573.7.1.el6.x86_64	
2.6.32-573.8.1.el6.x86_64	
2.6.32-573.12.1.el6.x86_64	
2.6.32-573.18.1.el6.x86_64	
2.6.32-573.22.1.el6.x86_64	
2.6.32-573.26.1.el6.x86_64	
2.6.32-573.30.1.el6.x86_64	
2.6.32-573.32.1.el6.x86_64	
2.6.32-573.34.1.el6.x86_64	
2.6.32-573.35.1.el6.x86_64	
2.6.32-573.35.2.el6.x86_64	
2.6.32-573.37.1.el6.x86_64	
2.6.32-573.38.1.el6.x86_64	
2.6.32-573.40.1.el6.x86_64	
2.6.32-573.42.2.el6.x86_64	Falcon sensor v3.4
2.6.32-573.43.2.el6.x86_64	Falcon sensor v3.4
2.6.32-573.43.3.el6.x86_64	Falcon sensor v3.7
2.6.32-573.45.1.el6.x86_64	Falcon sensor v3.7
2.6.32-573.45.2.el6.x86_64	Falcon sensor v3.7
2.6.32-573.47.1.el6.x86_64	Falcon sensor v3.7
2.6.32-573.48.1.el6.x86_64	Falcon sensor v3.7
2.6.32-573.49.1.el6.x86_64	Falcon sensor v3.8
2.6.32-573.49.3.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-573.51.1.el6.x86_64	Falcon sensor v4.1.4404
2.6.32-642.el6.x86_64	
2.6.32-642.1.1.el6.x86_64	
2.6.32-642.3.1.el6.x86_64	
2.6.32-642.4.2.el6.x86_64	
2.6.32-642.6.1.el6.x86_64	
2.6.32-642.6.2.el6.x86_64	
2.6.32-642.11.1.el6.x86_64	

l6.x86_64	
2.6.32-642.13.2.el6.x86_64	
2.6.32-642.15.1.el6.x86_64	
2.6.32-696.el6.x86_64	Falcon sensor v3.4
2.6.32-696.1.1.el6.x86_64	Falcon sensor v3.4
2.6.32-696.3.1.el6.x86_64	Falcon sensor v3.4
2.6.32-696.3.2.el6.x86_64	Falcon sensor v3.4
2.6.32-696.6.3.el6.x86_64	Falcon sensor v3.5
2.6.32-696.10.1.el6.x86_64	Falcon sensor v3.6
2.6.32-696.10.2.el6.x86_64	Falcon sensor v3.7
2.6.32-696.10.3.el6.x86_64	Falcon sensor v3.7
2.6.32-696.18.7.el6.x86_64	Falcon sensor v3.8
2.6.32-696.13.2.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-696.16.1.el6.x86_64	Falcon sensor v3.10.4204
2.6.32-696.20.1.el6.x86_64	Falcon sensor v3.10.4205
2.6.32-573.41.1.el6.x86_64	Falcon sensor v4.5.5011
2.6.32-573.42.1.el6.x86_64	Falcon sensor v4.5.5011
2.6.32-573.53.1.el6.x86_64	Falcon sensor v4.5.5013
2.6.32-696.23.1.el6.x86_64	Falcon sensor v4.5.5013
2.6.32-696.28.1.el6.x86_64	Falcon sensor v4.5.5013
2.6.32-696.30.1.el6.x86_64	Falcon sensor v4.5.5013
2.6.32-573.55.2.el6.x86_64	Falcon sensor v4.5.5014
2.6.32-573.55.4.el6.x86_64	Falcon sensor v4.5.5014
2.6.32-573.59.1.el6.x86_64	Falcon sensor v4.8.5305

RHEL 7 / CentOS 7

Kernel	Minimum sensor version
3.10.0-229.el7.x86_64	
3.10.0-229.1.2.el7.x86_64	
3.10.0-229.4.2.el7.x86_64	
3.10.0-229.7.2.el7.x86_64	
3.10.0-229.11.1.el7.x86_64	
3.10.0-229.14.1.el7.x86_64	
3.10.0-229.20.1.el7.x86_64	
3.10.0-229.24.2.el7.x86_64	
3.10.0-229.26.2.el7.x86_64	
3.10.0-229.28.1.el7.x86_64	
3.10.0-229.30.1.el7.x86_64	Falcon sensor v3.5

l7.x86_64	
3.10.0-229.38.1.el7.x86_64	
3.10.0-229.40.1.el7.x86_64	
3.10.0-229.42.1.el7.x86_64	
3.10.0-229.42.2.el7.x86_64	
3.10.0-229.44.1.el7.x86_64	
3.10.0-229.46.1.el7.x86_64	
3.10.0-229.48.1.el7.x86_64	
3.10.0-229.49.1.el7.x86_64	
3.10.0-327.el7.x86_64	
3.10.0-327.3.1.el7.x86_64	
3.10.0-327.4.4.el7.x86_64	
3.10.0-327.4.5.el7.x86_64	
3.10.0-327.10.1.el7.x86_64	
3.10.0-327.13.1.el7.x86_64	
3.10.0-327.18.2.el7.x86_64	
3.10.0-327.22.2.el7.x86_64	
3.10.0-327.28.2.el7.x86_64	
3.10.0-327.28.3.el7.x86_64	
3.10.0-327.36.1.el7.x86_64	
3.10.0-327.36.2.el7.x86_64	
3.10.0-327.36.3.el7.x86_64	
3.10.0-327.41.3.el7.x86_64	
3.10.0-327.41.4.el7.x86_64	
3.10.0-327.44.2.el7.x86_64	
3.10.0-327.46.1.el7.x86_64	
3.10.0-327.49.2.el7.x86_64	
3.10.0-327.53.1.el7.x86_64	Falcon sensor v3.5
3.10.0-327.55.1.el7.x86_64	Falcon sensor v3.5
3.10.0-327.55.2.el7.x86_64	Falcon sensor v3.4
3.10.0-327.55.3.el7.x86_64	Falcon sensor v3.5
3.10.0-327.58.1.el7.x86_64	Falcon sensor v3.5
3.10.0-327.59.1.el7.x86_64	Falcon sensor v3.6
3.10.0-327.59.2.el7.x86_64	Falcon sensor v3.7
3.10.0-327.59.3.el7.x86_64	Falcon sensor v3.7
3.10.0-327.61.3.el7.x86_64	Falcon sensor v3.10.4204
3.10.0-327.62.1.el7.x86_64	Falcon sensor v3.10.4204

6_64	
3.10.0-514.2.2.el7.x86_64	
3.10.0-514.6.1.el7.x86_64	
3.10.0-514.6.2.el7.x86_64	Falcon sensor v3.5
3.10.0-514.10.2.el7.x86_64	
3.10.0-514.16.1.el7.x86_64	Falcon sensor v3.4
3.10.0-514.21.1.el7.x86_64	Falcon sensor v3.4
3.10.0-514.21.2.el7.x86_64	Falcon sensor v3.4
3.10.0-514.26.1.el7.x86_64	Falcon sensor v3.4
3.10.0-514.26.2.el7.x86_64	Falcon sensor v3.5
3.10.0-514.28.1.el7.x86_64	Falcon sensor v3.6
3.10.0-514.28.2.el7.x86_64	Falcon sensor v3.7
3.10.0-514.32.2.el7.x86_64	Falcon sensor v3.7
3.10.0-514.32.3.el7.x86_64	Falcon sensor v3.7
3.10.0-514.35.1.el7.x86_64	Falcon sensor v3.10.4204
3.10.0-514.36.1.el7.x86_64	Falcon sensor v3.8
3.10.0-514.36.5.el7.x86_64	Falcon sensor v3.8
3.10.0-514.35.1.el7.x86_64	Falcon sensor v3.10.4204
3.10.0-514.41.1.el7.x86_64	Falcon sensor v3.10.4205
3.10.0-693.el7.x86_64	Falcon sensor v3.6
3.10.0-693.1.1.el7.x86_64	Falcon sensor v3.6
3.10.0-693.2.1.el7.x86_64	Falcon sensor v3.6
3.10.0-693.2.2.el7.x86_64	Falcon sensor v3.7
3.10.0-693.5.2.el7.x86_64	Falcon sensor v3.10.4204
3.10.0-693.11.6.el7.x86_64	Falcon sensor v3.8
3.10.0-693.11.1.el7.x86_64	Falcon sensor v3.10.4204
3.10.0-693.17.1.el7.x86_64	Falcon sensor v3.10.4205
3.10.0-514.44.1.el7.x86_64	Falcon sensor v4.3.4603
3.10.0-693.21.1.el7.x86_64	Falcon sensor v4.3.4603
3.10.0-514.48.1.el7.x86_64	Falcon sensor v4.5.5011
3.10.0-693.25.2.el7.x86_64	Falcon sensor v4.5.5011
RHEL 7.5 3.10.0-862.el7.x86_64	Falcon sensor v4.5.5011
RHEL 7.3 3.10.0-514.48.3.el7.x86_64	Falcon sensor v4.5.5014
RHEL 7.3 3.10.0-514.48.5.el7.x86_64	Falcon sensor v4.5.5014
RHEL 7.3 3.10.0-514.51.1.el7.x86_64	Falcon sensor v4.5.5014
RHEL 7.4 3.10.0-693.25.4.el7.x86_64	Falcon sensor v4.5.5014
RHEL 7.4 3.10.0-693.25.7.el7.x86_64	Falcon sensor v4.5.5014

693.33.1.el7.x86_64	Falcon sensor v4.5.5014
RHEL 7.5 3.10.0-862.2.3.el7.x86_64	Falcon sensor v4.5.5014
RHEL 7.5 3.10.0-862.3.2.el7.x86_64	Falcon sensor v4.5.5014

SLES 11 SP1

Kernel	Minimum sensor version
3.0.101-108.38-default	Falcon sensor v4.5.5011

SLES 11 SP4

Kernel	Minimum sensor version
3.0.101-63-default	
3.0.101-65-default	
3.0.101-68-default	
3.0.101-71-default	
3.0.101-77-default	
3.0.101-80-default	
3.0.101-84-default	
3.0.101-88-default	
3.0.101-91-default	
3.0.101-94-default	
3.0.101-97-default	Falcon sensor v3.5
3.0.101-100-default	Falcon sensor v3.4
3.0.101-104-default	Falcon sensor v3.5
3.0.101-107-default	Falcon sensor v3.4
3.0.101-108.7-default	Falcon sensor v3.7
3.0.101-108.10-default	Falcon sensor v3.7
3.0.101-108.13-default	Falcon sensor v3.10.4204
3.0.101-108.18-default	Falcon sensor v3.8
3.0.101-108.21-default	Falcon sensor v3.8
3.0.101-108.35-default	Falcon sensor v4.1.4404
3.0.101-108.41-default	Falcon sensor v4.5.5014
3.0.101-108.48-default	Falcon sensor v4.5.5014
3.0.101-108.52-default	Falcon sensor v4.8.5305

SLES 12 SP1

Kernel	Minimum sensor version
3.12.49-11-default	
3.12.51-60.20-default	

fault	
3.12.53-60.30-default	
3.12.57-60.35-default	
3.12.59-60.41-default	
3.12.59-60.45-default	
3.12.62-60.62-default	
3.12.62-60.64.8-default	
3.12.67-60.64.18-default	
3.12.67-60.64.21-default	
3.12.67-60.64.24-default	
3.12.69-60.64.29-default	Falcon sensor v3.4
3.12.69-60.64.32-default	Falcon sensor v3.4
3.12.69-60.64.35-default	Falcon sensor v3.4
3.12.74-60.64.40-default	Falcon sensor v3.4
3.12.74-60.64.45-default	Falcon sensor v3.7
3.12.74-60.64.48-default	Falcon sensor v3.7
3.12.74-60.64.51-default	Falcon sensor v3.7
3.12.74-60.64.54-default	Falcon sensor v3.7
3.12.74-60.64.57-default	Falcon sensor v3.7
3.12.74-60.64.60-default	Falcon sensor v3.7
3.12.74-60.64.63-default	Falcon sensor v3.10.4204
3.12.74-60.64.66-default	Falcon sensor v3.8
3.12.74-60.64.69-default	Falcon sensor v3.8
3.12.74-60.64.82-default	Falcon sensor v4.1.4404
3.12.74-60.64.88-default	Falcon sensor v4.5.5014
3.12.74-60.64.93-default	Falcon sensor v4.5.5014

SLES 12 SP2

Kernel	Minimum sensor version
4.4.21-69-default	
4.4.21-81-default	
4.4.21-84-default	
4.4.21-90-default	
4.4.38-93-default	
4.4.49-92.11-default	
4.4.49-92.14-default	Falcon sensor v3.4
4.4.59-92.17-default	Falcon sensor v3.4
4.4.59-92.20-default	Falcon sensor v3.4

fault	Falcon sensor v3.4
4.4.73-5-default	Falcon sensor v3.7
4.4.74-92.29-default	Falcon sensor v3.6
4.4.74-92.32-default	Falcon sensor v3.6
4.4.74-92.35-default	Falcon sensor v3.6
4.4.74-92.38-default	Falcon sensor v3.7
4.4.82-6.3-default	Falcon sensor v3.7
4.4.82-6.6-default	Falcon sensor v3.7
4.4.82-6.9-default	Falcon sensor v3.7
4.4.90-92.45-default	Falcon sensor v3.10.4204
4.4.90-92.50-default	Falcon sensor v3.8
4.4.114-92.64	Falcon sensor v4.1
4.4.121-92.73-default	Falcon sensor v4.5.5014
4.4.121-92.80-default	Falcon sensor v4.5.5014

SLES 12 SP3

Kernel	Minimum sensor version
4.4.92-6.18-default	Falcon sensor v3.8
4.4.92-6.30-default	Falcon sensor v3.8
4.4.103-6.33-default	Falcon sensor v3.8
4.4.103-6.38-default	Falcon sensor v3.8
4.4.103-92.53-default	Falcon sensor v3.8
4.4.103-92.56-default	Falcon sensor v3.8
4.4.114-94.11	Falcon sensor v4.1.4403
4.4.114-94.14-default	Falcon sensor v4.1.4404
4.4.126-94.22-default	Falcon sensor v4.5.5014
4.4.132-94.33-default	Falcon sensor v4.8.5305

Ubuntu 14.04LTS

We support these Ubuntu LTS kernels, which generally have support for at least 9-12 months.

Kernel	Minimum sensor version
3.13.0-24-generic	Falcon sensor v3.6
3.13.0-27-generic	Falcon sensor v3.6
3.13.0-29-generic	Falcon sensor v3.6
3.13.0-30-generic	Falcon sensor v3.6
3.13.0-32-generic	Falcon sensor v3.6
3.13.0-33-generic	Falcon sensor v3.6
3.13.0-34-generic	Falcon sensor v3.6

c	Falcon sensor v3.6
3.13.0-36-generic	Falcon sensor v3.6
3.13.0-37-generic	Falcon sensor v3.6
3.13.0-39-generic	Falcon sensor v3.6
3.13.0-40-generic	Falcon sensor v3.6
3.13.0-41-generic	Falcon sensor v3.6
3.13.0-43-generic	Falcon sensor v3.6
3.13.0-44-generic	Falcon sensor v3.6
3.13.0-45-generic	Falcon sensor v3.6
3.13.0-46-generic	Falcon sensor v3.6
3.13.0-48-generic	Falcon sensor v3.6
3.13.0-49-generic	Falcon sensor v3.6
3.13.0-51-generic	Falcon sensor v3.6
3.13.0-52-generic	Falcon sensor v3.6
3.13.0-53-generic	Falcon sensor v3.6
3.13.0-54-generic	Falcon sensor v3.6
3.13.0-55-generic	Falcon sensor v3.6
3.13.0-57-generic	Falcon sensor v3.6
3.13.0-58-generic	Falcon sensor v3.6
3.13.0-59-generic	Falcon sensor v3.6
3.13.0-61-generic	Falcon sensor v3.6
3.13.0-62-generic	Falcon sensor v3.6
3.13.0-63-generic	Falcon sensor v3.6
3.13.0-65-generic	Falcon sensor v3.6
3.13.0-66-generic	Falcon sensor v3.6
3.13.0-67-generic	Falcon sensor v3.6
3.13.0-68-generic	Falcon sensor v3.6
3.13.0-70-generic	Falcon sensor v3.6
3.13.0-71-generic	Falcon sensor v3.6
3.13.0-73-generic	Falcon sensor v3.6
3.13.0-74-generic	Falcon sensor v3.6
3.13.0-76-generic	Falcon sensor v3.6
3.13.0-77-generic	Falcon sensor v3.6
3.13.0-79-generic	Falcon sensor v3.6
3.13.0-83-generic	Falcon sensor v3.6
3.13.0-85-generic	Falcon sensor v3.6
3.13.0-86-generic	Falcon sensor v3.6

c	Falcon sensor v3.6
3.13.0-88-generic	Falcon sensor v3.6
3.13.0-91-generic	Falcon sensor v3.6
3.13.0-92-generic	Falcon sensor v3.6
3.13.0-93-generic	Falcon sensor v3.6
3.13.0-95-generic	Falcon sensor v3.6
3.13.0-96-generic	Falcon sensor v3.6
3.13.0-98-generic	Falcon sensor v3.6
3.13.0-100-generic	Falcon sensor v3.6
3.13.0-101-generic	Falcon sensor v3.6
3.13.0-103-generic	Falcon sensor v3.6
3.13.0-105-generic	Falcon sensor v3.6
3.13.0-106-generic	Falcon sensor v3.6
3.13.0-107-generic	Falcon sensor v3.6
3.13.0-108-generic	Falcon sensor v3.6
3.13.0-109-generic	Falcon sensor v3.6
3.13.0-110-generic	Falcon sensor v3.6
3.13.0-112-generic	Falcon sensor v3.6
3.13.0-113-generic	Falcon sensor v3.6
3.13.0-115-generic	Falcon sensor v3.6
3.13.0-116-generic	Falcon sensor v3.6
3.13.0-117-generic	Falcon sensor v3.6
3.13.0-119-generic	Falcon sensor v3.6
3.13.0-121-generic	Falcon sensor v3.6
3.13.0-123-generic	Falcon sensor v3.6
3.13.0-125-generic	Falcon sensor v3.6
3.13.0-126-generic	Falcon sensor v3.6
3.13.0-128-generic	Falcon sensor v3.6
3.13.0-129-generic	Falcon sensor v3.6
3.13.0-132-generic	Falcon sensor v3.7
3.13.0-133-generic	Falcon sensor v3.10.4204
3.13.0-135-generic	Falcon sensor v3.10.4204
3.13.0-137-generic	Falcon sensor v3.8
3.13.0-139-generic	Falcon sensor v3.8
3.13.0-141-generic	Falcon sensor v3.10.4205
3.13.0-142-generic	Falcon sensor v4.1.4404
4.4.0-21-generic	Falcon sensor v3.6

	Falcon sensor v3.6
4.4.0-24-generic	Falcon sensor v3.6
4.4.0-28-generic	Falcon sensor v3.6
4.4.0-31-generic	Falcon sensor v3.6
4.4.0-34-generic	Falcon sensor v3.6
4.4.0-36-generic	Falcon sensor v3.6
4.4.0-38-generic	Falcon sensor v3.6
4.4.0-42-generic	Falcon sensor v3.6
4.4.0-45-generic	Falcon sensor v3.6
4.4.0-47-generic	Falcon sensor v3.6
4.4.0-51-generic	Falcon sensor v3.6
4.4.0-53-generic	Falcon sensor v3.6
4.4.0-57-generic	Falcon sensor v3.6
4.4.0-59-generic	Falcon sensor v3.6
4.4.0-62-generic	Falcon sensor v3.6
4.4.0-63-generic	Falcon sensor v3.6
4.4.0-64-generic	Falcon sensor v3.6
4.4.0-66-generic	Falcon sensor v3.6
4.4.0-67-generic	Falcon sensor v3.6
4.4.0-70-generic	Falcon sensor v3.6
4.4.0-71-generic	Falcon sensor v3.6
4.4.0-72-generic	Falcon sensor v3.6
4.4.0-75-generic	Falcon sensor v3.6
4.4.0-78-generic	Falcon sensor v3.6
4.4.0-79-generic	Falcon sensor v3.6
4.4.0-81-generic	Falcon sensor v3.6
4.4.0-83-generic	Falcon sensor v3.6
4.4.0-87-generic	Falcon sensor v3.6
4.4.0-89-generic	Falcon sensor v3.6
4.4.0-91-generic	Falcon sensor v3.6
4.4.0-92-generic	Falcon sensor v3.6
4.4.0-93-generic	Falcon sensor v3.6
4.4.0-96-generic	Falcon sensor v3.7
4.4.0-97-generic	Falcon sensor v3.10.4204
4.4.0-98-generic	Falcon sensor v3.10.4204
4.4.0-101-generic	Falcon sensor v3.10.4204
4.4.0-103-generic	Falcon sensor v3.8

ic	Falcon sensor v3.8
4.4.0-108-generic	Falcon sensor v3.8
4.4.0-109-generic	Falcon sensor v3.8
4.4.0-111-generic	Falcon sensor v3.10.4205
4.4.0-112-generic	Falcon sensor v3.10.4205
3.13.0-143-generic	Falcon sensor v4.3.4603
4.4.0-116-generic	Falcon sensor v4.3.4603
3.13.0-145-generic	Falcon sensor v4.5.5011
4.4.0-121-generic	Falcon sensor v4.5.5011
3.13.0-147-generic	Falcon sensor v4.5.5014
3.13.0-149-generic	Falcon sensor v4.5.5014
4.4.0-124-generic	Falcon sensor v4.5.5014
4.4.0-127-generic	Falcon sensor v4.5.5014

Ubuntu 16.04LTS

We support these Ubuntu LTS kernels, which generally have support for at least 9-12 months.

Kernel	Minimum sensor version
4.4.0-21-generic	Falcon sensor v3.6
4.4.0-22-generic	Falcon sensor v3.6
4.4.0-24-generic	Falcon sensor v3.6
4.4.0-28-generic	Falcon sensor v3.6
4.4.0-31-generic	Falcon sensor v3.6
4.4.0-34-generic	Falcon sensor v3.6
4.4.0-36-generic	Falcon sensor v3.6
4.4.0-38-generic	Falcon sensor v3.6
4.4.0-42-generic	Falcon sensor v3.6
4.4.0-43-generic	Falcon sensor v3.6
4.4.0-45-generic	Falcon sensor v3.6
4.4.0-47-generic	Falcon sensor v3.6
4.4.0-51-generic	Falcon sensor v3.6
4.4.0-53-generic	Falcon sensor v3.6
4.4.0-57-generic	Falcon sensor v3.6
4.4.0-59-generic	Falcon sensor v3.6
4.4.0-62-generic	Falcon sensor v3.6
4.4.0-63-generic	Falcon sensor v3.6
4.4.0-64-generic	Falcon sensor v3.6
4.4.0-66-generic	Falcon sensor v3.6

	Falcon sensor v3.6
4.4.0-70-generic	Falcon sensor v3.6
4.4.0-71-generic	Falcon sensor v3.6
4.4.0-72-generic	Falcon sensor v3.6
4.4.0-75-generic	Falcon sensor v3.6
4.4.0-77-generic	Falcon sensor v3.6
4.4.0-78-generic	Falcon sensor v3.6
4.4.0-79-generic	Falcon sensor v3.6
4.4.0-81-generic	Falcon sensor v3.6
4.4.0-83-generic	Falcon sensor v3.6
4.4.0-87-generic	Falcon sensor v3.6
4.4.0-89-generic	Falcon sensor v3.6
4.4.0-91-generic	Falcon sensor v3.6
4.4.0-92-generic	Falcon sensor v3.6
4.4.0-93-generic	Falcon sensor v3.6
4.4.0-96-generic	Falcon sensor v3.7
4.4.0-97-generic	Falcon sensor v3.10.4204
4.4.0-98-generic	Falcon sensor v3.10.4204
4.4.0-101-generic	Falcon sensor v3.10.4204
4.4.0-103-generic	Falcon sensor v3.8
4.4.0-104-generic	Falcon sensor v3.8
4.4.0-108-generic	Falcon sensor v3.8
4.4.0-109-generic	Falcon sensor v3.8
4.4.0-112-generic	Falcon sensor v3.10.4205
4.4.0-116-generic	Falcon sensor v4.5.5015
4.4.0-119-generic	Falcon sensor v4.5.5015
4.4.0-121-generic	Falcon sensor v4.5.5015
4.4.0-122-generic	Falcon sensor v4.5.5015
4.4.0-124-generic	Falcon sensor v4.5.5015
4.4.0-127-generic	Falcon sensor v4.5.5015
4.4.0-1001-aws	Falcon sensor v3.7
4.4.0-1003-aws	Falcon sensor v3.7
4.4.0-1004-aws	Falcon sensor v3.7
4.4.0-1007-aws	Falcon sensor v3.7
4.4.0-1009-aws	Falcon sensor v3.7
4.4.0-1011-aws	Falcon sensor v3.7
4.4.0-1012-aws	Falcon sensor v3.7

	Falcon sensor v3.7
4.4.0-1016-aws	Falcon sensor v3.7
4.4.0-1017-aws	Falcon sensor v3.7
4.4.0-1018-aws	Falcon sensor v3.7
4.4.0-1020-aws	Falcon sensor v3.7
4.4.0-1022-aws	Falcon sensor v3.7
4.4.0-1026-aws	Falcon sensor v3.7
4.4.0-1028-aws	Falcon sensor v3.7
4.4.0-1030-aws	Falcon sensor v3.7
4.4.0-1031-aws	Falcon sensor v3.7
4.4.0-1032-aws	Falcon sensor v3.7
4.4.0-1035-aws	Falcon sensor v3.7
4.4.0-1037-aws	Falcon sensor v3.7
4.4.0-1038-aws	Falcon sensor v3.10.4204
4.4.0-1039-aws	Falcon sensor v3.10.4204
4.4.0-1041-aws	Falcon sensor v3.10.4204
4.4.0-1043-aws	Falcon sensor v3.8
4.4.0-1044-aws	Falcon sensor v3.8
4.4.0-1047-aws	Falcon sensor v3.8
4.4.0-1048-aws	Falcon sensor v3.8
4.4.0-1049-aws	Falcon sensor v3.10.4205
4.4.0-1050-aws	Falcon sensor v4.1.4404
4.4.0-1052-aws	Falcon sensor v4.5.5015
4.4.0-1054-aws	Falcon sensor v4.5.5015
4.4.0-1055-aws	Falcon sensor v4.5.5015
4.4.0-1057-aws	Falcon sensor v4.5.5015
4.4.0-1060-aws	Falcon sensor v4.5.5015

Static IPs

You can use these IP addresses to whitelist SSL traffic by IP address instead of by FQDN.

Term Servers

- **Public DNS Name:** `ts01-b.cloudsink.net`
- **Elastic Load Balancer DNS Name:** `term01-b-449152202.us-west-1.elb.amazonaws.com`

IPs:

- 13.56.127.239
- 13.57.54.63
- 50.18.194.39
- 52.52.117.52
- 52.52.119.33
- 52.52.149.168
- 52.52.239.58
- 52.53.77.89
- 52.8.134.130
- 52.8.160.82
- 52.8.172.89
- 52.8.173.58
- 52.8.19.75
- 52.8.32.113
- 52.8.45.162
- 52.8.5.240
- 52.8.54.244
- 52.8.61.206
- 52.9.104.148
- 52.9.212.176
- 52.9.77.209
- 52.9.82.94
- 52.9.87.98
- 54.183.105.3
- 54.183.122.156
- 54.183.140.32
- 54.183.142.105
- 54.183.148.116
- 54.183.148.43
- 54.183.234.42
- 54.183.24.162
- 54.183.252.86
- 54.183.34.154
- 54.183.39.68
- 54.183.51.31
- 54.183.51.69
- 54.183.52.221
- 54.193.117.199
- 54.193.27.226
- 54.193.29.47
- 54.193.67.98
- 54.193.87.57
- 54.193.90.171

- 54.215.154.80
- 54.215.169.199
- 54.215.169.38
- 54.215.176.108
- 54.215.183.157
- 54.215.226.55
- 54.219.112.243
- 54.219.115.12
- 54.219.137.54
- 54.219.140.50
- 54.219.141.250
- 54.219.145.181
- 54.219.147.253
- 54.219.148.161
- 54.219.149.89
- 54.219.149.92
- 54.219.151.1
- 54.219.151.27
- 54.219.153.248
- 54.219.158.53
- 54.219.159.84
- 54.219.161.141
- 54.241.138.180
- 54.241.146.67
- 54.241.148.127
- 54.241.150.134
- 54.241.161.60
- 54.241.162.180
- 54.241.162.64
- 54.241.164.212
- 54.241.175.140
- 54.241.175.52
- 54.241.179.52
- 54.241.181.242
- 54.241.184.161
- 54.241.185.201
- 54.241.186.124
- 54.241.197.58
- 54.67.105.202
- 54.67.119.89
- 54.67.123.150
- 54.67.123.234
- 54.67.26.184
- 54.67.33.233
- 54.67.48.56
- 54.67.54.116
- 54.67.6.201
- 54.67.68.88
- 54.67.92.206
- 54.67.96.255
- 54.67.99.247

- **Public DNS Name:** `lfodown01-b.cloudsink.net`
- **Elastic Load Balancer DNS Name:** `lfodown01-b-2066797419.us-west-1.elb.amazonaws.com`

IPs:

- 13.56.121.58
- 50.18.198.237
- 52.8.141.1
- 54.183.120.141
- 54.183.135.80
- 54.183.215.154
- 54.193.86.245
- 54.215.170.42
- 54.219.179.25
- 54.241.161.242
- 54.241.181.78
- 54.241.182.78
- 54.241.183.151
- 54.241.183.229
- 54.241.183.232
- 54.67.108.17
- 54.67.114.188
- 54.67.122.238
- 54.67.17.131
- 54.67.24.156
- 54.67.4.108
- 54.67.41.192
- 54.67.5.136
- 54.67.51.32
- 54.67.72.218
- 54.67.78.134

LFO Upload

- **Public DNS Name:** `lfoup01-b.cloudsink.net`
- **Elastic Load Balancer DNS Name:** `lfoup01-b-1269267964.us-west-1.elb.amazonaws.com`

IP:

- 54.183.28.214

Revision History

Version	Revision Date	Revision Details	Completed By
1.0	5/25/2017	Initial release for the Kernel-based Falcon sensor for Linux.	Nick Cangie
1.1	7/25/2017	Updated for v3.4 of the Kernel-based Falcon sensor for Linux.	Aaron Beck
1.2	8/17/2017	Updated for v3.5 of the Kernel-based Falcon sensor for Linux.	Aaron Beck
1.3	09/18/2017	Removed branded references to "Falcon Host"	Scott P
1.4	09/20/2017	Updated for v3.6 of the Kernel-based Falcon sensor for Linux.	Aaron Beck
2.0	11/05/2017	Updated for v3.7. Edited formatting throughout.	Scott P
2.1	12/06/2017	Revised location of downloads.	Scott P
2.2	12/07/2017	Updated prep and troubleshooting steps with recommendations from Support.	Scott P
2.3	01/22/2018	Added new Linux kernels for Falcon sensor version 3.8.	Scott P
2.4	01/30/2018	Updated IP addresses	Scott P
2.5	02/01/2018	Added new kernels supported with sensor version 3.10.4204	Scott P
2.6	02/15/2018	Added new kernels supported with sensor version 3.10.4205	Scott P
2.7	03/09/2018	Revised installation instructions to include 4.1's steps to provide your CID	Scott P
2.8	03/19/2018	Added new kernels supported with sensor version 4.1.4404	Scott P
2.9	04/24/2018	Added new kernels supported with sensor version 4.4.4603	Krista A
2.10	05/23/2018	Added new kernels supported with sensor version 4.5.5011, specified "LTS version" of Ubuntu	Krista A
2.11	06/04/2018	Added new kernels supported with sensor version 4.5.5013	Krista A
2.12	06/14/2018	Added new kernels supported with sensor version 4.5.5014	Krista A
2.13	06/18/2018	Added new kernels supported with sensor version 4.5.5015	Krista A
2.14	07/05/2018	Docker support added in sensor version 4.8.5305 - removed example that stated it was not supported. Added new kernels supported with sensor version 4.8.5305	Krista A